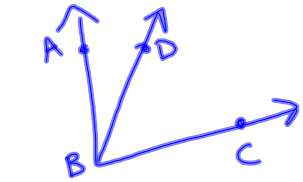
1-5 Angle Relationships

Sep 18-11:21 AM

Adjacent angles—2 ∠s that lie in the same plane, have a common vertex, and a common side, but no common interior points



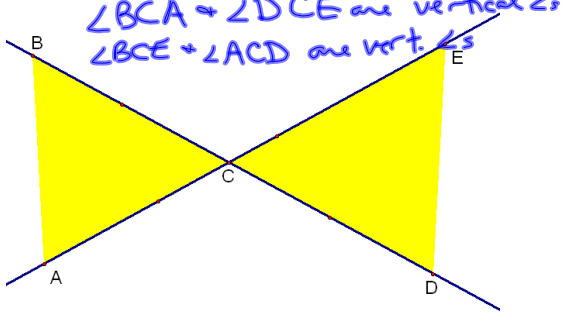
∠ABD & ∠DBC are adjacent
share B, $\overrightarrow{BD}$

∠ABD & ∠ABC are NOT adjacent
have common interior pts

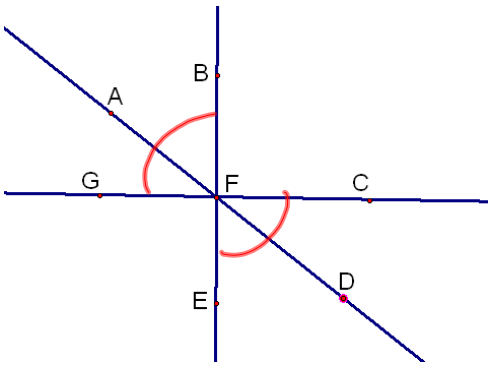
Sep 18-11:21 AM

Vertical angles—2 nonadjacent ∠s formed by intersecting lines

∠BCA & ∠DCE are vertical ∠s
∠BCE & ∠ACD are vert. ∠s

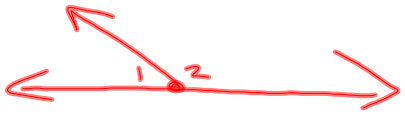


Sep 18-11:22 AM



Sep 18-11:25 AM

Linear pair—a pair of adjacent ∠s whose non-common sides are opposite rays



∠1 and ∠2 are a Linear Pair

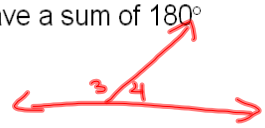
Sep 18-11:25 AM

Complementary angles—2 ∠s whose measures have a sum of 90°

∠1+∠2 are compl.

Sep 18-11:26 AM

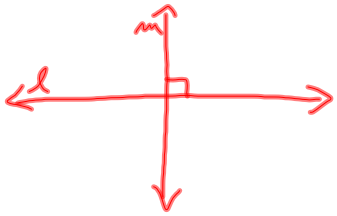
Supplementary angles—2 ∠s whose measures have a sum of 180°



∠3+∠4 are suppl.

Sep 18-11:26 AM

Perpendicular lines—lines that form right ∠s; form congruent adjacent ∠s (⊥)



$l \perp m$

Sep 18-11:27 AM

Example 1
An angle is 6° less than twice its complement. Find the angles.

$x + y = 90$

$x = 2y - 6$

Substitution

$2y - 6 + y = 90$

$3y - 6 = 90$

$3y = 96$

$y = 32$

First eqn totals 90 or 180

Second eqn. Use the sentence

$32°, 58°$

Sep 18-11:27 AM

Example 2
An angle is 44° more than its supplement. Find the angles.

$x + y = 180$

$x = 44 + y$

$44 + y + y = 180$

$44 + 2y = 180$

$2y = 136$

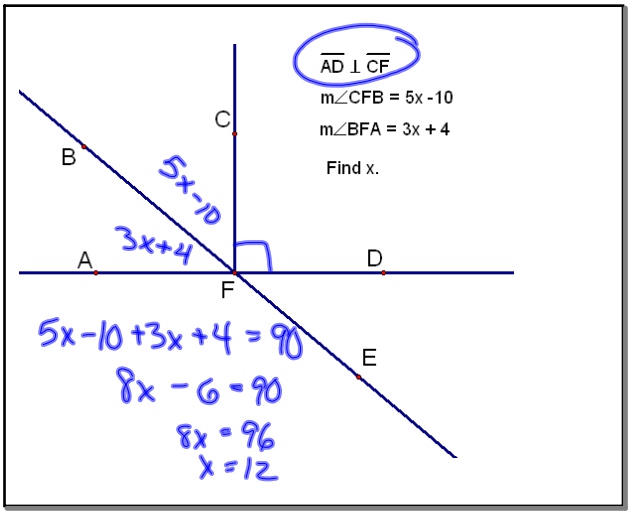
$y = 68$

$68°, 112°$

Sep 18-11:27 AM

Example 3 Two angles are complementary.
An angle is 17 times as large as the other. Find the angles.

Sep 18-11:28 AM



$5x - 10 + 3x + 4 = 90$

$8x - 6 = 90$

$8x = 96$

$x = 12$

Sep 18-11:28 AM

HW
p42 #s 11-17,20-28

Sep 18-11:28 AM